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(FILE 'HOME' ENTERED AT 12:44:33 ON 26 SEP 2003)

FILE 'HCAPLUS' ENTERED AT 12:44:57 ON 26 SEP 2003
L1 611 (QUENCH? OR COOLING) AND TEMPERING AND INDUCT?
L2 139 L1 AND WATER
L3 17 L2 AND HOT

FILE 'WPIDS' ENTERED AT 12:59:22 ON 26 SEP 2003
L4 35 L1 AND HOT
L5 29 L4 NOT L3

Examiner's Copy

AN 76:48699 HCA
TI Inheritance of the thermomechaniccal strengthening of 30Kh2GMT [chromium-manganese-molybdenum-titanium] steel
AU Bernshtein, M. L.; Brun, L. Ya.; Zaimovskii, V. A.; Savari, P.; Samedov, O. V.
CS Mosk. Inst. Stali Splavov, Moscow, USSR
SO Fiz. Metal. Metalloved. (1971), 32(4), 813-18
CODEN: FMMTAK
DT Journal
LA Russian
AB Plates made from 30Kh2GMT steel (C 0.29, Mn 0.9, Si 0.6, Cr 1.7, Mo 0.6, and Ti 0.09%) were **rolled** at 930.degree. (.epsilon.=50%) and heated in a molten Pb bath for different times and at different temps. The plates were then **cut** into tension-testing samples which were quenched from 880.degree. and tempered at 20-500.degree.. 30Kh2GMT is characterized by a relatively high plasticity in the as-quenched state. High-temp. thermomech. treatment (HTTMT) causes a strengthening effect (tensile strength increase of 15-20 kg/mm2) which is preserved up to the highest **tempering** temp. The terminal mech. properties improve with the time of isothermal **heating** at 400.degree.. The optimal **heating** temp. in the bainite region is 400.degree.. If the decompn. of the deformed austenite is carried out in the pearlitic region (.apprx.700.degree. for 30Kh2GMT) the improved mech. properties are not recovered during repeated quenching. This confirms the assumptions of Sadovskii, et al. (1969) that the inheritance of defects during the .alpha..fwdarw..gamma. transformation is possible only when the **cooling**-induced .gamma..fwdarw..alpha. transformation proceeds in a crystallog-ordered matrix. The low-temp. thermomech. treatment (LTTMT) followed by isothermal decompn. of the austenite in the bainite regions leads to a strongly pinned dislocation structure analogous to that obtained after HTTMT.

AN 1984-094171 [15] WPIDS
DNC C1984-040120
TI Low carbon steel high strength shell mfg. method - by heating for **quenching** to 950-1050 degrees C and holding for 1.5-2.0 minutes.
DC M24
IN GORYACHEV, B A; VAINER, Y U I
PA (CHER-I) CHERKAS V V
CYC 1
PI SU 1027238 A 19830707 (198415)* 3p
ADT SU 1027238 A SU 1980-2974644 19800815
PRAI SU 1980-2974644 19800815
AB SU 1027238 A UPAB: 19930925
The method involves **hot** deformation, **quenching**, **tempering**, and cold rolling, with heating for **quenching**, and **tempering** at 680-710 deg. C over 3-5 min., and cold rolling with 15-20% reduction and 50-55% wall compression. Heating for **quenching** and **tempering** is carried out by a continuous-consecutive **induction** method.

The method is useful in the mfr. of very critical components used under conditions of dynamic loads and high temp., provides for production of shells of tensile strength not below 736 MPa and impact strength across rolling direction not less than 0.2 KJ/m2 at -40 deg. C, and has been applied, for example, to the manufacture of shells in grade 10 steel of dimensions 122x6mm from **hot** rolled tubes of dimensions 194x12mm. Examination of the microstructure of specimens cut from the tubes reveals small deformed ferrite and pearlite grains. Bul.25/7.7.83
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